

**ENGINEERS AUSTRALIA**  
**Western Australia Division**



**ENGINEERS  
AUSTRALIA**

**CEREMONY REPORT**

**NASA SPACE TRACKING STATION CARNARVON**



**Heritage Recognition Ceremony**

**Carnarvon, Western Australia, Saturday 23rd June, 2012**

## CONTENTS

1. Introduction .....	3
2. Invitations .....	3
3. Program and Running Sheet, Distinguished Guests .....	3
4. Speech Notes .....	3
5. Media Release .....	4
6. Media Articles .....	5
7. Interpretation Panel .....	5
8. Photographs .....	5
APPENDIX 1 - Carnarvon Space Festival Mailout .....	8
APPENDIX 2 - Museum opening running order .....	9
APPENDIX 3 - Engineers Australia media release .....	10
APPENDIX 4 - Publicity .....	12
APPENDIX 5 - Interpretation Panel .....	22

## 1. Introduction

The NASA Space Tracking Station Carnarvon was awarded an Engineering Heritage International Marker. The dedication ceremony took place in Carnarvon on Saturday 23rd June, 2012.

This was an unusual dedication ceremony, in that it was conducted during the Carnarvon 'Space Festival' (June 2012) and formed part of the opening ceremony for a Space Museum at the old OTC Telecommunications station just outside the town. The opportunity to participate in the festival in this way ensured that a large crowd, including several distinguished guests, was present for the EHA dedication speech and unveiling of the interpretation panel and marker disc. A large number of the general public was present, as were several journalists representing both print and television. The audience numbered approximately 150.

EHWA members Richard Hartley and Mark Bush (Chair) attended the ceremony, which included the unveiling of the interpretation panel and marker disc. These were mounted temporarily at the museum site for the ceremony. The unveiling was done by Karl Brandenburg and Brendan Grylls.

## 2. Invitations

As the ceremony was part of the festival proceedings, no specific invitations were needed. The flyer advertising the festival is included as Appendix 1.

## 3. Program and Running Sheet, Distinguished Guests

The running sheet is included as Appendix 2.

Distinguished guests included the WA State Chief Scientist, Professor Lyn Beasley, who was the MC for the ceremony; Apollo 11 astronaut Dr. Buzz Aldrin; the Minister for Regional Development, Hon. Brendan Grylls; the Member of the Legislative Assembly for the North West, Mr. Vince Catania; and Carnarvon Shire President, Mr. Karl Brandenburg. The audience also included a number of the personnel who operated the station, including Paul Dench and Alison Gregg, who co-authored a book on the history of the endeavour: '*Carnarvon and Apollo - One Giant leap for a small Australian town*', published in 2010.

## 4. Speech Notes

The following is the dedication speech presented by EHWA Chair Mark Bush.

*Dr Buzz Aldrin, other distinguished guests, ladies and gentlemen ...*

*It is a great pleasure to have this opportunity to visit Carnarvon on the occasion of the Space Festival and to participate in this ceremony. I am here with my fellow committee member Richard Hartley to formally dedicate engineering heritage recognition awarded by Engineers Australia to the NASA Space Tracking Station that was located near here. The station operated between 1963 and 1975 in support of*

*the Gemini and Apollo manned missions, and subsequent Skylab and many other satellite missions. In fact, the station would have communicated with the Apollo 11 crew, including Dr Aldrin, and tracked their trajectory. The station was operated mostly by Australian personnel, many of whom are in the audience today.*

*Before proceeding, I would like to say a few words about Engineers Australia.*

*EA is the national organization of professional engineers, having around 100,000 members. It has many functions, one of which is to identify and recognise sites and projects having engineering heritage significance. It does this through a branch of the organization called Engineering Heritage Australia, which has satellite committees throughout the country, including the Western Australian branch, Engineering Heritage Western Australia, which is the group that Richard and I are representing today.*

*The EHA Heritage Recognition Program is now in its 27th Year. In that time approximately 160 sites have been recognised across the nation. The aim of the Program is to provide credit where it is due to people and objects that have improved the lives or wellbeing of Australians.*

*The recognition of the NASA Space Tracking Station here in Carnarvon is special in many ways, but not the least is that it is the first site to be recognised by Engineers Australia for its international significance, namely the collaboration between the USA and Australia to develop and operate the facility. The marker that accompanies the interpretation panel to be unveiled today is the first of its type, and reads 'Engineering Heritage International Marker'. It recognises the inspiring technical and human achievements of the NASA space missions of three to four decades ago, and Carnarvon's role in supporting those mission. It is a great pleasure, on behalf of Engineers Australia, to present the panel and marker to the Shire of Carnarvon.*

*The interpretation panel is headed CARNARVON'S KEY ROLE IN SPACE EXPLORATION. It details the tracking station's and the Shire's roles in the NASA programs. I should stress that this is not the final location of this panel. It will be mounted in an appropriate public location at a later time.*

*Before I hand back to Phil, I would like to thank in particular my fellow committee members Ian Maitland, Don Young and Richard Hartley for all the hard work they did in putting together the nomination that has led to this award, and to the valuable input provided by Paul Dench, who worked at the station and recently published a book on his experiences of that time.*

*I would also like to thank the Shire of Carnarvon, for its support of the nomination and in undertaking to locate the panel in its permanent home, and Phil Youd for allowing us to participate in the museum opening ceremony.*

## **5. Media Release**

The media release produced by Engineering Australia is included as Appendix 3.

## **6. Media Articles**

Several media articles resulted from the Space Festival, which included mention of Engineers Australia. Examples included in Appendix 4 are an article from the Northern Guardian newspaper, an Engineers Australia magazine article and an extract from the Honey Suckle Creek Tracking Station Website - report by Hamish Lindsay.

## 7. Interpretation Panel

The interpretation panel design is shown in Appendix 5. The panel is vitreous glass enamel, 1200 mm wide and 600 mm high. It is mounted on a stainless steel frame, which also holds the marker disk mounted on a crossbar between the legs (see photos below). This marker is the standard 300 mm diameter vitreous enamel on steel marker used by EHA.

Final positioning of the panel and disc was delayed due to major developments taking place in the town. In January 2014 the disc/panel structure was installed in a prominent location in front of the new Civic Centre.

## 8. Photographs



The MC, WA State Chief Scientist Professor Lyn Beasley, welcomes guests and the public to the opening of the new space museum and the heritage dedication ceremony. (Photo - Space Museum)





EHWA Chair Professor Mark Bush delivering the dedication speech. (Photo - Space Museum)



Unveiling of the interpretation panel and marker disc by (left to right) the Member of the Legislative Assembly for the North West, Mr. Vince Catania; the Carnarvon Shire President, Mr. Karl Brandenburg and the Minister for Regional Development, Hon. Brendan Grylls. (Photo - Richard Hartley)



Dr Buzz Aldrin recounting his Apollo 11 and Carnarvon experiences at a cocktail function on the evening before the dedication ceremony. (Photo - Mark Bush)



The panel and disc in their final location in front of the Carnarvon Civic Centre. (Photo - Phil Youd)



**This happens only ONCE IN A LIFETIME**  
**MEET BUZZ ALDRIN**

**Carnarvon Space Festival**  
**June 22-23, Carnarvon WA**

- Meet and greet Buzz Aldrin at Perth Airport
- Return flights to and from Carnarvon
- Accommodation (one night)
- Transfers to and from Functions
- Cocktail Party with Keynote Speech by Buzz

**Cost: \$1500**

**Hurry - Limited Tickets from**  
**Carnarvon Visitor Centre**  
**Phone (08) 9941 1146**  
[info@carnarvon.org.au](mailto:info@carnarvon.org.au)

   Government of Western Australia  
Department of Regional Development and Lands     



## APPENDIX 2 - Museum opening running order

### Running Order – Museum Opening 10.30am to 12 noon, Saturday 23 June 2012 Carnarvon Space & Technology Museum

#### Official Opening Ceremony – Stage One of the Carnarvon Space & Technology Museum, Mahony Avenue, Carnarvon

Saturday 23 June 2012

1010	Transfer to Museum
1020	Final soundcheck and venue familiarisation
1030	Guest arrivals commence
1045	Ceremony commences – MC welcomes guests and intros Mr Phil Youd, Chairman Carnarvon Space & Technology Museum
1050	Speech – Mr Phil Youd  Includes presentation of Engineer Heritage Western Australia national award
1100	MC invites Dr Buzz Aldrin & Assistant Astronaut (name TBC) to the stage to launch a rocket to formally launch Stage One of the Museum.
1102	Rocket launched – MC leads audience in applause MC thanks Dr Aldrin & Assistant Astronaut as they return to their seats.
1105	MC concludes proceedings and invites former staff members of the NASA Space Tracking Station to meet behind the stage area for a group photograph.  MC invites guests to morning tea served by the Carnarvon CWA and Gardening Club  Music commences
1200	Morning tea concludes

# MEDIA RELEASE



23 June 2012

## Buzz Aldrin helps celebrate WA engineers' space achievements

The achievements of West Australian communications engineers and technologists more than four decades ago have been commemorated at the opening of the Space and Technology Museum at Carnarvon.

Carnarvon's tracking station and OTC satellite earth station played important roles in NASA's space programs in the 1960s and 1970s.

At a special ceremony on 23 June, an interpretative panel was unveiled by WA Regional Development Minister Brendon Grylls and Carnarvon Shire president Karl Brandenburg.

Also attending the event was Dr Buzz Aldrin, the Apollo 11 astronaut and pilot of the 'Eagle' lunar landing module, and the second man to walk on the moon.

"Many Australians might not realise it, but the Carnarvon tracking station played an important role in supporting the NASA missions between 1963 and 1975, the period covering the Gemini and Apollo missions – including the moon walk missions – as well as Skylab," said Professor Mark Bush, the Chairman of Engineering Heritage Western Australia.

"In fact, the station would have communicated with the Apollo 11 crew, including Dr Aldrin, and tracked the orbital trajectory of their historic 1969 moon landing."

Professor Bush and fellow heritage committee member Dr Richard Hartley attended the unveiling ceremony on behalf of the WA Division of Engineers Australia.

The Carnarvon tracking station was established in 1963 and at one time had more than 200 staff, some of whom attended the museum opening. Until it closed in May 1975, it was NASA's largest tracking station outside USA.

According to the space museum's [website](#), the tracking station was the last station to communicate with NASA space capsules leaving the earth orbit, and the last to make contact before splashdown in the Pacific Ocean.

A second facility – the OTC Satellite Earth Station – was opened in 1966, and featured a 12.8 metre wide Casshorn antenna. On 21 July 1969, the day of the Apollo 11 moon landing, the Casshorn antenna relayed television pictures of Neil Armstrong's first steps on the moon, the first live telecast into Western Australia.

... more/

---

Engineers Australia is the peak representative body for professional engineers, technologists and associates, representing more than 100,000 members from all disciplines of the engineering team. Engineers Australia is the largest and most diverse professional body for engineers in Australia, represented by nine Division

# MEDIA RELEASE



23 June 2012

The Space Museum ceremony also included the unveiling of an Engineering Heritage International Marker disc. The disc is the first of Engineers Australia's 'international' markers and recognises the collaboration between the USA and Australia to develop and operate the Carnarvon facility.

"The story of NASA and OTC in Carnarvon is one of technological and engineering achievement of the highest order, which includes landing men on the moon and returning them safely," said Professor Bush.

"It is also a story of the social impact on a small rural town of the influx of an urban high-tech workforce who contributed to and blended in well with the community."

Engineering Heritage Australia's heritage recognition program is now in its 27th year. In that time, approximately 160 sites across Australia have been recognised.

The aim of the program is to provide credit where it is due to people and objects that have improved the lives or well being of Australians.

*Ends*

**Media Contact:**

*Tony Malkovic, on behalf of Engineers Australia WA Division, ph 0411 1033 98*

---

Engineers Australia is the peak representative body for professional engineers, technologists and associates, representing more than 100,000 members from all disciplines of the engineering team. Engineers Australia is the largest and most diverse professional body for engineers in Australia, represented by nine Division

## APPENDIX 4 - Publicity

### Northern Guardian, 22 June 2012



Media Monitors Client Service  
Centre 1300 880 082

Copyright Agency Ltd (CAL)  
licenced copy



**Northern Guardian, Carnarvon WA**  
27 Jun 2012, by Ash Leigh Telford

General News, page 4 - 425.13 cm<sup>2</sup>  
Regional - circulation 4,622 (--W----

ID 151847066

PAGE 1 of 2

# A giant leap

ASHLEIGH TELFORD

AFTER months of back-breaking work and relentless fundraising, the committee of the Carnarvon Space and Technology Museum can breathe a sigh of relief following the success of Saturday's grand opening.

The attention was on Carnarvon as the second man to walk on the moon, Buzz Aldrin, cut the ribbon.

"I think we are preparing for the giant leap," Dr Aldrin said in his speech at the opening.

As part of the special day, Dr Aldrin placed his hands in concrete to leave a lasting memory of his visit to the museum.

He presented Carnarvon Space and Technology Museum chairman Phil Youd with a book titled One Small Step to display.

Mr Youd said he was delighted with the opening and he was proud with what the committee and museum volunteers had done to ensure the attraction was ready in time for Dr Aldrin's momentous visit.

"This is just phase one of our journey and phase two is just over the fence there," Mr Youd said, referring to the hopeful relocation of the museum 100m to the north of the current site.

WA chief scientist Lyn Beazley was the host for the morning and she spoke about how the State has had a long connection with science.

"Western Australia has a very



**Anika Hird watches Buzz Aldrin as he cuts the ribbon during the opening ceremony.** Picture: Mogens Johansen



**Buzz Aldrin makes a hand imprint at the opening.** Picture: Mogens Johansen



**Buzz Aldrin meets members of the crowd.** Picture: Ashleigh Telford

proud history in space," she said. Professor Beazley said Aboriginal people had used the stars to





# for space museum

navigate the land and tell the seasons before European settlement.

"Just imagine us trying to cope without a GPS, it's inspiring," she said.

Professor Beazley said WA would again be put on the science map by being chosen to co-host the Square Kilometre Array project in Murchison, the Shire next to Shark Bay.

"This is arguably one of the big-

gest projects to be undertaken in the sciences," she said.

"We will be able to better understand the evolution of the universe." The opening ceremony also included the unveiling of an Engineering Heritage International Marker by Engineers Australia Professor Mark Bush.

He said the marker disc was the first of its kind and recognised the collaboration between the United

States and Australia to develop and operate the Carnarvon Tracking Station.

"The story of NASA and Carnarvon is one of technological and engineering achievements of the highest order, which includes landing men on the moon and returning them safely," he said.

> COCKTAIL PARTY

9



Buzz Aldrin as he arrives in Carnarvon.

Picture: Mogers Johansen



Dr Aldrin was the second man on the moon.

Picture: Neil Armstrong/NASA

Engineers Australia magazine, July 2012



The first Engineering Heritage Australia international marker disc has been unveiled at the Carnarvon Space and Technology Museum, recognising the collaboration between communications engineers and technologists in the US and Australia.

## Space museum opens in Carnarvon

[Read more](#) ➔

Apollo 11 astronaut and pilot of the *Eagle* lunar landing module, and the second man to walk on the moon, Dr Buzz Aldrin was special guest at the opening of the Space and Technology Museum at Carnarvon, Western Australia last month. The museum commemorates the achievements of West Australian communications engineers and technologists more than four decades ago.

At the opening event, an interpretative panel was unveiled by Western Australia regional development minister Brendon Grylls and Carnarvon Shire president Karl Brandenburg.

The ceremony also included the unveiling of an Engineering Heritage international marker disc. The disc is the first of Engineers Australia's "international" markers and recognises the collaboration between the US and Australia to develop and operate the Carnarvon tracking station and satellite earth station.

The Carnarvon tracking station was

established in 1963 and at one time had more than 200 staff, some of whom attended the museum opening. Until it closed in May 1975, it was NASA's largest tracking station outside the US. The tracking station was typically the last station to communicate with NASA space capsules leaving the earth orbit, and the last to make contact before splashdown in the Pacific Ocean.

A second facility – the Overseas Telecommunications Commission (OTC) Satellite Earth Station – was opened in 1966, and featured a 12.8m-wide Casshorn antenna. On 21 July 1969, the day of the Apollo 11 moon landing, the Casshorn antenna relayed television pictures of Neil Armstrong's first steps on the moon, in the first live telecast in Western Australia.

Professor Mark Bush, chairman of Engineering Heritage Western Australia, said: "The story of NASA and OTC in Carnarvon is one of technological and engineering achievement of the highest

order, which includes landing men on the moon and returning them safely. It is also a story of the social impact on a small rural town of the influx of an urban high-tech workforce who contributed to and blended in well with the community."

The opening event of the Space and Technology Museum featured a two-day program, dubbed the Carnarvon Space Festival. Aldrin spoke with school children during the festival, and attended a fundraising cocktail party where he gave a keynote presentation.

Aldrin said: "I've held Carnarvon in very high esteem, I guess since 1962. So getting to see what it was and what's around here and what the people are like is quite intriguing."

The new museum is phase one of a two-stage program and is currently located in the recreation club of the OTC. Phase two will commence next year with increased room to house mock space capsules and more interpretive displays.

## Shaping your future in renewable energy.

Renewable Energy Systems are playing an increasingly important role as modern societies move towards more sustainable living.

Study a Bachelor of Engineering (Electrical and Renewable Energy Systems) to prepare you for a career as an electrical engineer in the wind, solar and geothermal power industries; with skills applicable to electricity and power supply, storage and utilisation.

To learn more, visit [unisa.edu.au/whatsnew](http://unisa.edu.au/whatsnew) or call 1300 UNI NOW.



University of  
South Australia





Buzz arrives.

Professor Lyn Beazley welcomed the distinguished guests and opened her speech with,

"Western Australia has a very proud history in space. From the very first astronomers, people who walked this land forty... fifty thousand years ago... perhaps earlier than that, and read the stars so knowing the time of night and the time of year could navigate over our vast continent..... that's an absolutely amazing achievement, and only by reading the patterns of the stars could you do that. Just imagine us without a GPS trying to cope on doing the same thing. Seeing the Emu in the sky – not looking at the Milky Way but seeing the dark areas that spell out the Emu and knowing from the seasons when the beak was high up that's when you collected the eggs to make the best cakes, I am told, or low towards the horizon.



WA Chief Scientist Dr. Lyn Beazley.

And of course many other things we see only in our beautiful southern skies – the Magellanic Clouds, the Southern Cross,” she looked across at James Aldrin, “I think, James, you have now seen it, you hadn’t seen it before? He’s nodding, that’s wonderful. And the great globular clusters, and of course we have one of the largest meteorite collections in the world, our scientists at the WA museum are busy studying them as we speak. Coming to the modern era, John Glenn flying over our city and calling Perth the city of light and realising after crossing the darkness of the Indian Ocean there really is life on the planet to welcome him back after his first orbit around the world, the first American to do so.

And of course coming to even more modern times, we heard about two or three weeks ago the most exciting and amazing news that Western Australia will co-host the square kilometre array radio telescope. This is arguably the largest project that humanity has ever undertaken, certainly in the sciences. We are going to have five thousand radio telescopes in two continents, looking deep to understand the evolution of the Universe from 13.7 billion years ago. Looking at how stars and galaxies formed, and really exciting, looking into the atmosphere of planets circling other stars – to look for the molecules that are signs of life such as methane so we might not know if there are little green men and



women out there, but we would get some hint whether we were the only place in the Universe that has life and one can hardly imagine that that would be the case.

But let's get more specific to Carnarvon. What an important part you have played. It's just great to know that from 1963 onwards this was the largest non-US based site for tracking what was happening in the exciting space missions for the 220 people based here. And the jewel in the crown, of course, was the Apollo missions, with Dr Buzz Aldrin stepping onto the Moon – that's the jewel in the crown but we have lots of pearls in the crown too – the Skylab, you'll see a little piece of it inside, that landed near Balladonia; SPAN, the Solar Particle Alert Network important to watch for solar flares so we don't get all our communication systems blacked out in the fifteen hours it takes for those particles to swoop out towards us from the Sun. Observations of Jupiter and the Giotto Mission that flew past Halley's Comet that we all saw so well from down here. And let me tell you now that we have a wonderful scientist just attracted to Western Australia from Imperial College, London, Professor Phil Bland, whose working at Curtin Uni, who actually now has a piece of comet collected when the subsequent mission actually bumped into a comet and collected some pieces and brought them back. But without Giotto doing its work we couldn't have kept moving forward. And, of course, Woomera, was busy testing rockets, but by golly, they were being tested here as well, and tracked from this very station.

So an honourable and noble record, but really the absolute height was the Moon landing, and that's why we're so thrilled to welcome Dr Buzz Aldrin here today. And an extra little piece of information, which I love, is that you brought back lots of rocks, and as I was telling you yesterday, three of those rocks had never been found previously on the Earth, two were found very promptly afterwards, one was named after the initials of the three who travelled to the Moon. Another was called Tranquillityite, after the Sea of Tranquillity, on which you landed. Well, I am delighted to report that Tranquillityite has now been found, it was found three months ago by Professor Birger Rasmussen, again of Curtin Uni, and it was found right here in the Pilbara – so bringing it all home to base again.

So it's my absolute pleasure now to introduce Phil Youd, who's the chairman of the Carnarvon Space and Technology Museum."



Phil Youd. \*

Phil Youd,

"Good morning everyone, thank you all for coming. My speech will be very, very brief because I just don't do speeches. I'm one of those guys who is happy to be behind the scenes rather than standing up here in front of everyone. As I said last night, I feel like I'm part of a team. This is phase 1 of our journey, and phase two is just over the fence there, right behind where the tent was last night, hopefully with the shire and government support. Thank you very much for coming. Thank you very much to Buzz....and Michelle....and Christina...and James for coming all this way. It's been a long, long flight for them..... back to you Lyn."

Professor Lyn Beazley,

"Well said Phil. Let me now introduce Winthrop Professor Mark Bush, who is the chair of the Heritage Committee of Engineers Australia... so Professor Mark Bush, welcome."

Professor Mark Bush,

"It's a great pleasure to have this opportunity to visit Carnarvon on the occasion of the Space Festival and participate in this ceremony, in such esteemed company. I'm here with my fellow committee member Richard Hartley to formally dedicate Engineering Heritage recognition awarded by Engineers Australia to the NASA space tracking station. The significance of the station is the role it played in supporting the Gemini and Apollo manned missions, and many other satellite missions. And, of course, now in the presence of Dr Aldrin in the audience today, the station would have communicated with him on various occasions on various missions and most notably the Apollo 11 mission. It would have tracked the trajectory of that spacecraft and sent it on its way to the Moon, and welcomed it back on its return journey. The station was operated mostly by Australian, UK and US personnel, many of who are in the audience today. It's been great to hear the stories of the trackers that operated the station in the last day or so.



Dr Mark Bush presenting the Engineering Australia heritage award.

Before proceeding, I need to tell you a bit about Engineers Australia, the body that is affording this recognition. It is the National Organisation of Professional Engineers, having around 100,000 members. It has many functions associated with accreditation and certification and continuing professional development of engineers, but it also has a

function in identifying and recognising sites and projects having engineering heritage and it does have a branch called Engineering Heritage Australia which has satellite committees..... pun intended..... throughout the country, including a Western Australian branch – Engineering Heritage Western Australia – the group Richard and I are representing today. The heritage recognition program is now in its twenty-seventh year. It's a very select group and the result of a very rigorous process of nomination and selection.

The recognition of the tracking station here in Carnarvon is special in many ways, not the least is that it is the first site to be recognised by Engineers Australia for its international significance, namely the collaboration between the USA and Australia to develop and operate the facility. The marker that accompanies the interpretation panel, which is the circular white and red disc sitting below the panel over here on my right, is the first of its type, and reads 'International Heritage International marker.' The interpretation panel is headed Carnarvon's key role in space exploration and details the role of the tracking station and the shire of Carnarvon in supporting the NASA programs of the time, and recognises the inspiring technical and human achievements of these missions. I should stress this is not the final location of the panel - it's just mounted here today for this ceremony. It is with great pleasure I would like to invite the shire President Karl Brandenburg and Brendan Grylls to jointly unveil the panel."



The Engineering Australia Heritage Panel is unveiled. \*





The Engineering Australia Heritage Panel. \*

"Before I hand back to Lyn I need to acknowledge some people who were involved in this process, in particular Ian Maitland, Don Young and Richard Hartley, ..... Richard's sitting in the audience here.... after all the hard work they did putting the nomination together that led to this day, and in particular for the valuable input provided by Paul Dench, who worked at the station for many years ..... there he is..... he recently co-authored a book on his experiences of that time. I'd also like to thank the Shire of Carnarvon and its President, and to Phil Youd for allowing us to participate in the museum opening, and finally to Anne-Maree and Jody for organising it."

Professor Beazley,

"Thank you very much Mark. It's wonderful to have Engineers Australia so involved. And now it's my great pleasure to invite Dr Buzz Aldrin, with his assistant astronaut, 10 year old Anika Hird, who won a competition to be here today, many congratulations, fully equipped in her blue space suit, which I gather came straight from Scitech. It looks fantastic. So Dr Buzz Aldrin and Anika, could you please officiate cutting the ribbon to this fantastic museum."

Buzz and Anika then waited while the crowd counted down to 'liftoff' and cut the blue ribbon in

## APPENDIX 5 - Interpretation Panel



# CARNARVON'S KEY ROLE IN SPACE EXPLORATION

## The Race to the Moon

On 25 May 1961 the President of the United States John F Kennedy made an historic challenge to the American nation to put a man on the moon and return him safely to Earth before the end of the 1960s. This challenge followed the success of the Soviets when cosmonaut Yuri Gagarin became the first man to enter space and orbit the Earth on 12 April 1961.

## NASA Chooses Carnarvon for a Tracking Station Site

Previously in February 1960 the United States and Australian Governments had established a partnership to build several specialised tracking stations in Australia to support the USA space program. One of those was located at Maribea, Western Australia. However the German and Apollo phases of USA's Manned Space Flight Network program required the establishment of a command station at a more northerly location in Western Australia. After an extensive search the National Aeronautics and Space Administration of America (NASA) in July 1962, chose a site at Binnu Range, near Carnarvon, a logical choice. The launch flight passed over the Carnarvon area and Australia was a politically stable country.



Carnarvon and Apollo Mission Launch Flight Path

## Carnarvon in the Early 1960s

In 1962 Carnarvon was a remote and town of 2000 inhabitants with poor communications, minimal infrastructure, lack of training facilities and career support services. The location of the NASA tracking station, and subsequently the Overseas Telecommunications Station Carnarvon, Australia, OTC, Satellite Earth Station, had a significant social impact on the town. Up to 250 NASA tracking station and OTC employees were located in the town during the operations of the tracking station.



Carnarvon - Remnant in the Early 1960s



## Establishment of NASA Space Tracking Station

Australia provided the land and built the facilities and the US provided technical support and equipment installation, support, and training of staff. Antipodal Wireless (Australia) Ltd (AWA) was contracted to the Australian Government to assist in its to provide the majority of the station's operational and maintenance staff. Australia made a small contribution towards NASA's station station budget in exchange for the astronomical operations of NASA stations in Australia, the only nation to be accorded that privilege.



The NASA Space Tracking Station at Carnarvon

The initially underdeveloped site, consisted of huts, buildings, vans, antennas, dishes and masts, spread over an area of approximately 1.8 square kilometers.



There were four principal locations. These were the Observatory and Command, PPS-6 Radio, Goldard Range and Range Base, the Power Station and the Solar Particle Alert Network. NASA Carnarvon was one of only two NASA stations with an FPOs long range precision tracking radio, the most accurate in the world, the only station that could support both early orbit selection and the early post insertion phase of the Manned Space Flight Network and Deep Space Network into space, the Moon and the planets. The Carnarvon Space Tracking Station (Call sign CDS) - NASA Carnarvon became operational in 1963. Until it closed in May 1975, it was NASA's largest tracking station outside of USA.



Astronomy of US Air Force



Astronomy of US Air Force



Astronomy of US Air Force



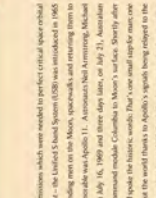
Astronomy of US Air Force



Astronomy of US Air Force



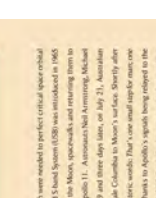
Astronomy of US Air Force



Astronomy of US Air Force



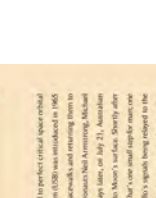
Astronomy of US Air Force



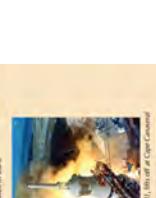
Astronomy of US Air Force



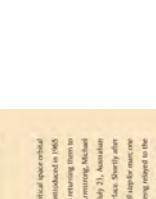
Astronomy of US Air Force



Astronomy of US Air Force



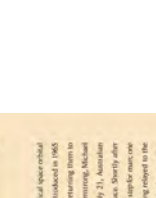
Astronomy of US Air Force



Astronomy of US Air Force



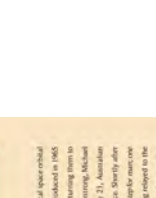
Astronomy of US Air Force



Astronomy of US Air Force



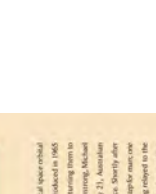
Astronomy of US Air Force



Astronomy of US Air Force



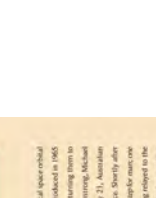
Astronomy of US Air Force



Astronomy of US Air Force



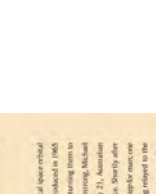
Astronomy of US Air Force



Astronomy of US Air Force



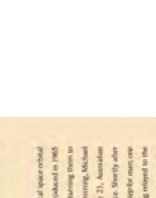
Astronomy of US Air Force



Astronomy of US Air Force



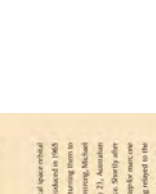
Astronomy of US Air Force



Astronomy of US Air Force



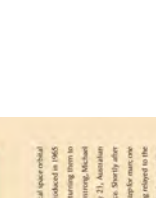
Astronomy of US Air Force



Astronomy of US Air Force



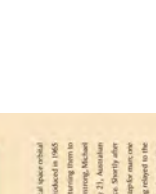
Astronomy of US Air Force



Astronomy of US Air Force



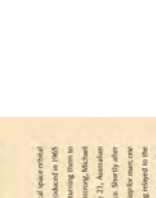
Astronomy of US Air Force



Astronomy of US Air Force



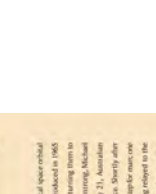
Astronomy of US Air Force



Astronomy of US Air Force



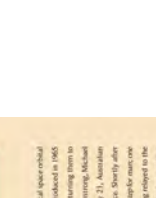
Astronomy of US Air Force



Astronomy of US Air Force



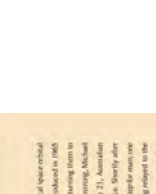
Astronomy of US Air Force



Astronomy of US Air Force



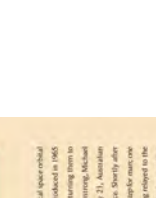
Astronomy of US Air Force



Astronomy of US Air Force



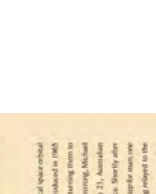
Astronomy of US Air Force



Astronomy of US Air Force



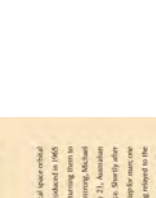
Astronomy of US Air Force



Astronomy of US Air Force



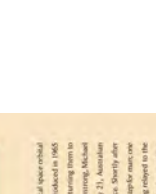
Astronomy of US Air Force



Astronomy of US Air Force



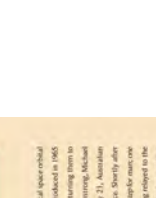
Astronomy of US Air Force



Astronomy of US Air Force



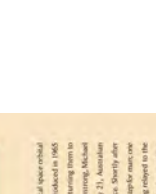
Astronomy of US Air Force



Astronomy of US Air Force



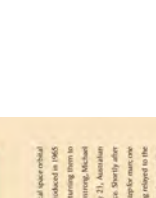
Astronomy of US Air Force



Astronomy of US Air Force



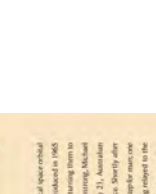
Astronomy of US Air Force



Astronomy of US Air Force



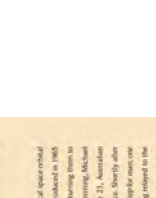
Astronomy of US Air Force



Astronomy of US Air Force



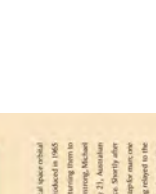
Astronomy of US Air Force



Astronomy of US Air Force



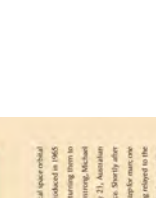
Astronomy of US Air Force



Astronomy of US Air Force



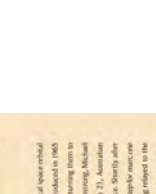
Astronomy of US Air Force



Astronomy of US Air Force



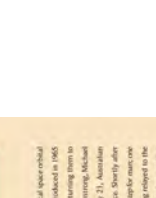
Astronomy of US Air Force



Astronomy of US Air Force



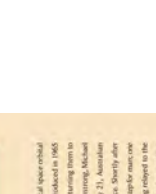
Astronomy of US Air Force



Astronomy of US Air Force



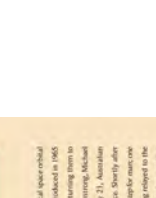
Astronomy of US Air Force



Astronomy of US Air Force



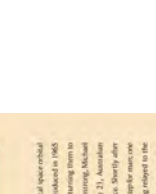
Astronomy of US Air Force



Astronomy of US Air Force



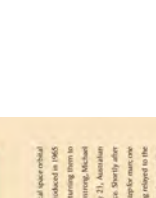
Astronomy of US Air Force



Astronomy of US Air Force



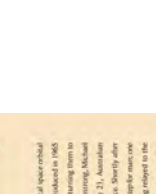
Astronomy of US Air Force



Astronomy of US Air Force



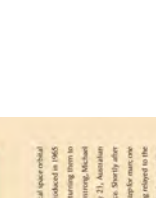
Astronomy of US Air Force



Astronomy of US Air Force



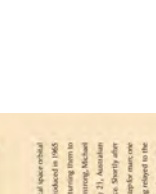
Astronomy of US Air Force



Astronomy of US Air Force



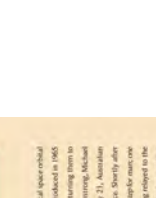
Astronomy of US Air Force



Astronomy of US Air Force



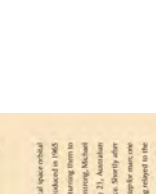
Astronomy of US Air Force



Astronomy of US Air Force



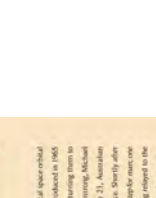
Astronomy of US Air Force



Astronomy of US Air Force



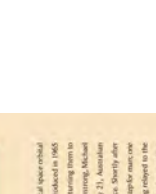
Astronomy of US Air Force



Astronomy of US Air Force



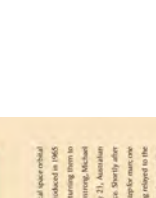
Astronomy of US Air Force



Astronomy of US Air Force



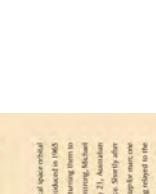
Astronomy of US Air Force



Astronomy of US Air Force



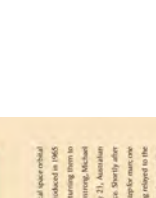
Astronomy of US Air Force



Astronomy of US Air Force



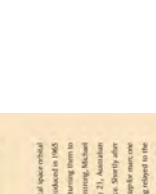
Astronomy of US Air Force



Astronomy of US Air Force



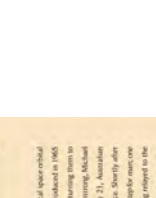
Astronomy of US Air Force



Astronomy of US Air Force



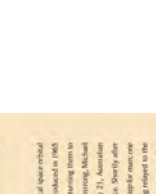
Astronomy of US Air Force



Astronomy of US Air Force



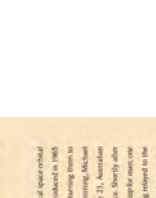
Astronomy of US Air Force



Astronomy of US Air Force



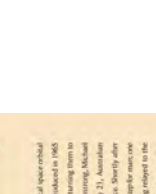
Astronomy of US Air Force



Astronomy of US Air Force



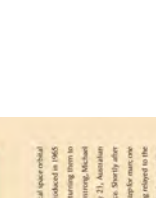
Astronomy of US Air Force



Astronomy of US Air Force



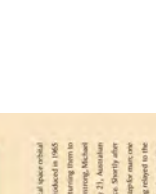
Astronomy of US Air Force



Astronomy of US Air Force



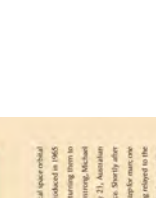
Astronomy of US Air Force



Astronomy of US Air Force



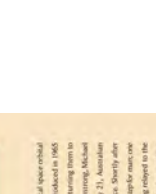
Astronomy of US Air Force



Astronomy of US Air Force



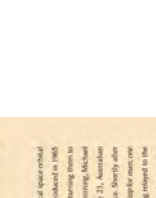
Astronomy of US Air Force



Astronomy of US Air Force



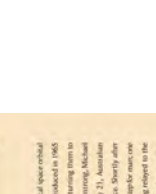
Astronomy of US Air Force



Astronomy of US Air Force



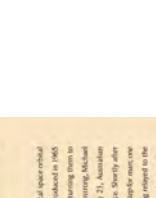
Astronomy of US Air Force



Astronomy of US Air Force



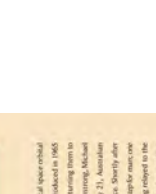
Astronomy of US Air Force



Astronomy of US Air Force



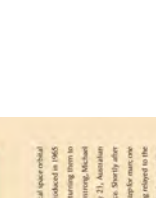
Astronomy of US Air Force



Astronomy of US Air Force



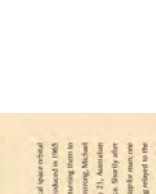
Astronomy of US Air Force



Astronomy of US Air Force



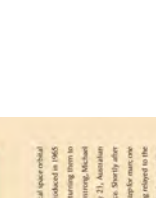
Astronomy of US Air Force



Astronomy of US Air Force



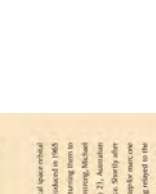
Astronomy of US Air Force



Astronomy of US Air Force



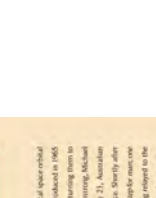
Astronomy of US Air Force



Astronomy of US Air Force



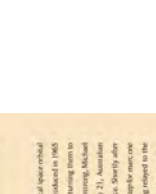
Astronomy of US Air Force



Astronomy of US Air Force



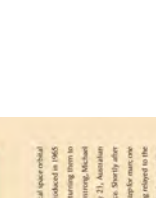
Astronomy of US Air Force



Astronomy of US Air Force



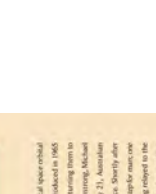
Astronomy of US Air Force



Astronomy of US Air Force



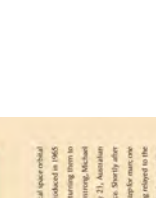
Astronomy of US Air Force



Astronomy of US Air Force



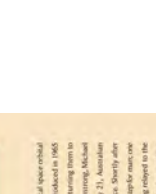
Astronomy of US Air Force



Astronomy of US Air Force



Astronomy of US Air Force



Astronomy of US Air Force



Astronomy of US Air Force